

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-088
SITE CLEANUP REQUIREMENTS

TOSCO REFINING COMPANY AND TOSCO CORPORATION
AVON REFINERY
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. Tosco Refining Company, a division of Tosco Corporation, (hereinafter called the discharger) owns and operates a petroleum refinery (hereinafter called the facility) with an approximate daily throughput capacity of 145,000 barrels of oil and produces primarily gasoline and diesel fuels. Other products are liquid petroleum gas, heating oil, thinners and solvents, jet fuel and petroleum coke. The facility has been operating since 1913 and has been owned by the discharger since 1976.
2. The facility is about 3 miles east of the City of Martinez on the southern shore of Suisun Bay in Contra Costa County (Attachment 1). The facility is bounded on the west by the Pacheco Creek and Walnut Creek, on the north by wetlands and Suisun Bay, on the south by Southern Pacific Pipeline facility and Highway 4, and on the east by Memory Gardens cemetery, Mallard Reservoir, Hasting Slough and wetlands.
3. In compliance with California Water Code Section 13267 (Executive Officer's January 19, 1990 letter), the discharger, submitted a technical report entitled "Subsurface Hydrocarbon Recovery Technical Report" dated February 26, 1990. In this work plan the discharger described subsurface Free Phase Liquid Petroleum Hydrocarbon (FPLH) pools beneath the Avon Refinery. FPLH pools occur on the water table beneath portions of Tracts 1, 2, 3 and 4 (Attachment 2). Volume of FPLH beneath the Tract 1, 2, 3 and 4 are estimated to be at least 354,000, 170,000, 34,000 and 1,500 barrels respectively (for a total volume of 559,500 barrels or about 23 million gallons). The discharger has removed 1980 barrels of FPLH from pools beneath Tract 2 and 37,000 barrels of FPLH from pools beneath Tract 3. The FPLH removed is returned to the refinery process. About 7% of volume of FPLH (about 39,000 barrels or 1.64 million gallons) has been recovered. The discharger proposed the following tasks:
 - o Installation of additional investigation wells for areas in Tracts 1, 2, 3 and 4 where delineation of the pool is not clear;
 - o Delineation of FPLH in Tracts 1, 2, 3 and 4 (Estimation of the FPLH pools with greater confidence by conducting further hydraulic testing);
 - o Initiation of FPLH Recovery in Tract 1; and,
 - o Expansion of FPLH Recovery in Tract 2.

4. Petroleum aboveground storage tanks and piping at this facility have been found to be the main source of leaks which caused the FPLH pools. The sources and rate of leaks have not been defined. The discharger has not determined whether or not these leaks ceased after January 1, 1990. The discharger believes that the majority of FPLH existed prior to January 1, 1990. The discharger has observed a continuous reduction of oil thickness in Tracts 2 and 3 monitoring wells due to ongoing recovery operations.
5. Senate Bill No. 1050, enacted the Aboveground Petroleum Storage Act and was added to Chapter 6.67 (commencing with Section 25270) to Division 20 of the Health and Safety Code (HSC).
6. Pursuant to HSC Section 25270.6(a) on or before July 1, 1990, and on or before July 1 of every two years thereafter, the discharger shall file with the board a storage statement. Each storage statement submitted shall be accompanied by a fee in accordance with the schedule tabulated in Section 25270.6(b).
7. Pursuant to HSC Section 25270.5(a), by January 1, 1991, the discharger shall prepare a spill prevention control and countermeasure plan prepared in accordance with the guidelines contained in part 112 of Title 40 of the Code of Federal Regulations.
8. Pursuant to HSC Section 25270.7(a) the discharger shall establish and maintain a monitoring program which shall be approved by the regional board, to detect releases to the soil and water, including both groundwater and surface water. The owner or operator shall establish the required monitoring program within 180 days after preparing the spill prevention control and countermeasure plan or 180 days after adoption of this order if the SPCC Plan has been previously prepared.
9. Pursuant to California Water Code Section 13304(c) and HSC Sections 25270.9 and 25270.11 the discharger shall be liable to the extent of the reasonable costs actually incurred in overseeing or contracting for clean up or abatement efforts.
10. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986 and amended it on August 19, 1987 and July 18, 1989. This Order implements the water quality objectives for Suisun Bay as stated in the Basin Plan.
11. The potential beneficial uses of the ground water in the area are:
 - a. Municipal Supply;
 - b. Industrial Process and Service Supply; and,
 - c. Agricultural Supply.
12. The existing and potential beneficial uses of the Suisun Bay are:
 - a. Industrial Process and Service Supply;
 - b. Navigation;
 - c. Water Contact Recreation;
 - d. Non-Contact Recreation;
 - e. Ocean Commercial and Sport Fishing;
 - f. Wildlife Habitat;
 - g. Preservation of Rare and Endangered Species;
 - h. Fish Migration and Spawning; and,
 - i. Estuarine Habitat.

13. The adoption of this Order is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) due to categorical exemption entitled "Replacement or Reconstruction (of Existing facilities)"; Section 15302, Title 14, California Code of Regulations.
14. The Board has notified the discharger and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code and 25270 of the California Health and Safety Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. Prohibitions

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.
4. The discharge of recovered FPLH onto land, into ground waters or surface waters is prohibited.

B. Specifications

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The discharger shall conduct FPLH recovery activities, as needed, to remove all pools of FPLH beneath the Facility as follow:
 - a. Installation of required number of investigation wells for each pool of Tracts 1, 2, 3 and 4, in order to delineate these pools and determine where cleanup is required;
 - b. Installation of investigation wells around the site to discover any other possible pools of FPLH (i.e. area between wells EEI-30, EEI-31 and EEI-71 and areas other than Tracts 1, 2, 3 and 4);
 - c. Continuation and expansion of FPLH Recovery operations in Tracts 2 and 3; and,

- d. Initiation of recovery operations in Tracts 1 and 4.
3. After completion of FPLH recovery activities in any Tract the discharger shall conduct monitoring activities, as needed, to define the vertical and horizontal extent of oil/soil mixture beneath the Tracts.

C. Provisions

The discharger shall comply with the Prohibitions and Specifications above according to the following time schedule:

1. Submission of a technical report, acceptable to the Executive Officer, documenting completion of the necessary tasks related to FPLH recovery in Tracts 1, 2, 3 and 4. This report shall include, but not necessarily be limited to the following:
 - a. Number of pools in each Tract and volume of each pool;
 - b. Horizontal and vertical extent of each pool including gradient;
 - c. Number and location of recovery wells for each pool;
 - d. Tabular and graphical summaries of the monitoring data regarding depth to oil, depth to water, oil thickness, corresponding piezometric elevation, fluid top elevation and interface elevation in each well;
 - e. FPLH removal efficiency in each pool;
 - f. Evaluation of FPLH recovery system and time schedule to remove all FPLH beneath the Tract; and,
 - g. A proposed Self Monitoring Program, which shall include but not necessarily be limited to the activities identifying the source or sources of leak or spill in each Tract.

FIRST PROGRESS REPORT DUE: No later than November 1, 1990.

SECOND PROGRESS REPORT DUE: No later than March 1, 1991.

FINAL REPORT DUE: No later than July 1, 1991.

2. The discharger is required to reimburse the State Water Resources Control Board (SWRCB) for all reasonable costs of the State and the Regional Boards incurred in overseeing or contracting for cleanup or abatement efforts. The discharger shall make financial arrangements with the SWRCB for the reimbursement by September 1, 1990.
3. The discharger shall maintain a copy of this order so as to be available at all times to project operating personnel.
4. Technical reports, submitted by the discharger, in compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted to the Board on the

schedule specified herein. These reports shall consist of a letter report that includes the following:

- a. A summary of work completed since submittal of the previous report and work projected to be completed by the time of the next report;
 - b. Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles;
 - c. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and proposes specific measures and a schedule to achieve compliance, this written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order, and,
 - d. In the first self-monitoring report, an evaluation of the current ground water monitoring system and a proposal for modifications as appropriate.
5. All submittal of hydrogeological plans, specifications, reports, and documents (except quarterly progress and self-monitoring reports) shall be signed by and stamped with the seal of a registered geologist, registered engineering geologist, or registered professional engineer.
6. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.
7. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
8. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, submitted by the discharger, shall also be provided to the following agencies:
 - a. Contra Costa County Health Department;
 - b. State Department of Health Services; and,
 - c. EPA Region IX.
9. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code, the following:
 - a. Entry upon the premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order;
 - b. Access to copy and records required to be kept under the terms and conditions of this Order;
 - c. Inspection of any monitoring equipment or methodology implemented in

response to this Order; and,

- d. Sampling of any ground water or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
10. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
11. The Board considers the property owner and site owner to have a continuing responsibility for correcting any problems within their reasonable control which arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.
12. These requirements do not authorize the commission of any act causing injury to the property of another or of the public, do not convey any property rights, do not remove liability under federal, state or local laws, and do not authorize the discharge of waste without the appropriate federal, state or local permits, authorizations, or determinations.
13. Pursuant to, or unless otherwise stated in, the requirements of California Water Code Sections 13271 and 13272, if any hazardous substance is discharged in or on any waters of the state, or discharged or deposited, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to the following:
 - a. This Regional Board at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m.; and,
 - b. The Office of Emergency Services at (800) 852-7550.

A written report shall be filed with the Regional Board within five working days and shall contain information relative to the following:

- (1) The nature of waste or pollutant;
- (2) The quantity involved and the duration of incident;
- (3) The cause of spill;
- (4) The estimated size of the affected area;
- (5) The corrective measures that have been taken or planned, and a schedule of these measures; and,
- (6) The persons/agencies notified.
14. The Board will review the Order periodically and may revise the requirements when necessary.
15. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer and the Board shall consider revision of this Order.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on June 20, 1990.



Steven R. Ritchie
Executive Officer

Attachments:

Figure 1: Location Map

Figure 2: Location of FPLH pools

Base Map: USGS topographic quadrangles; Clayton, Honker Bay, Vine Hill, Walnut Creek

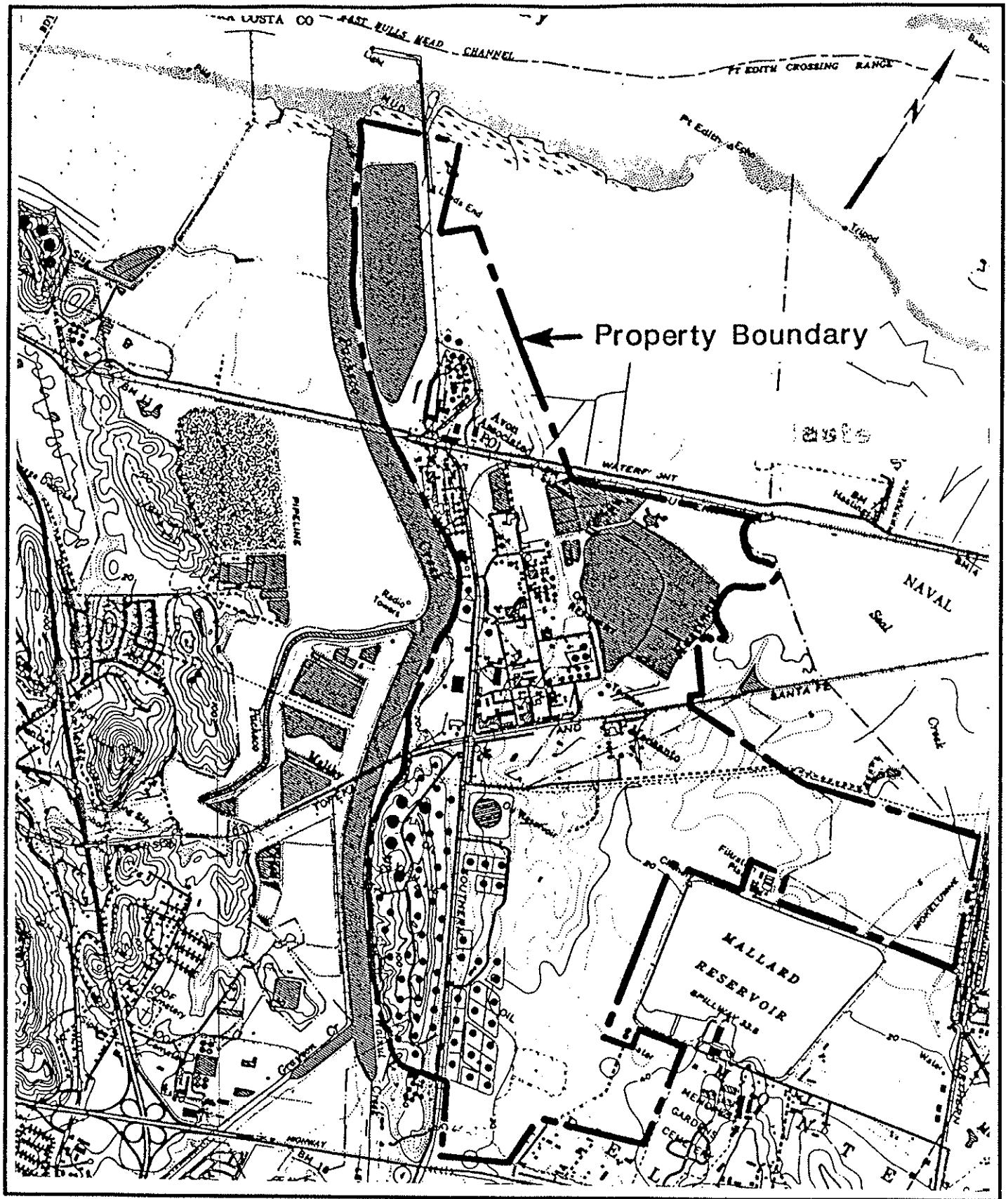


Figure 1: Location Map

PROJECT NO.

DRAWING NO.

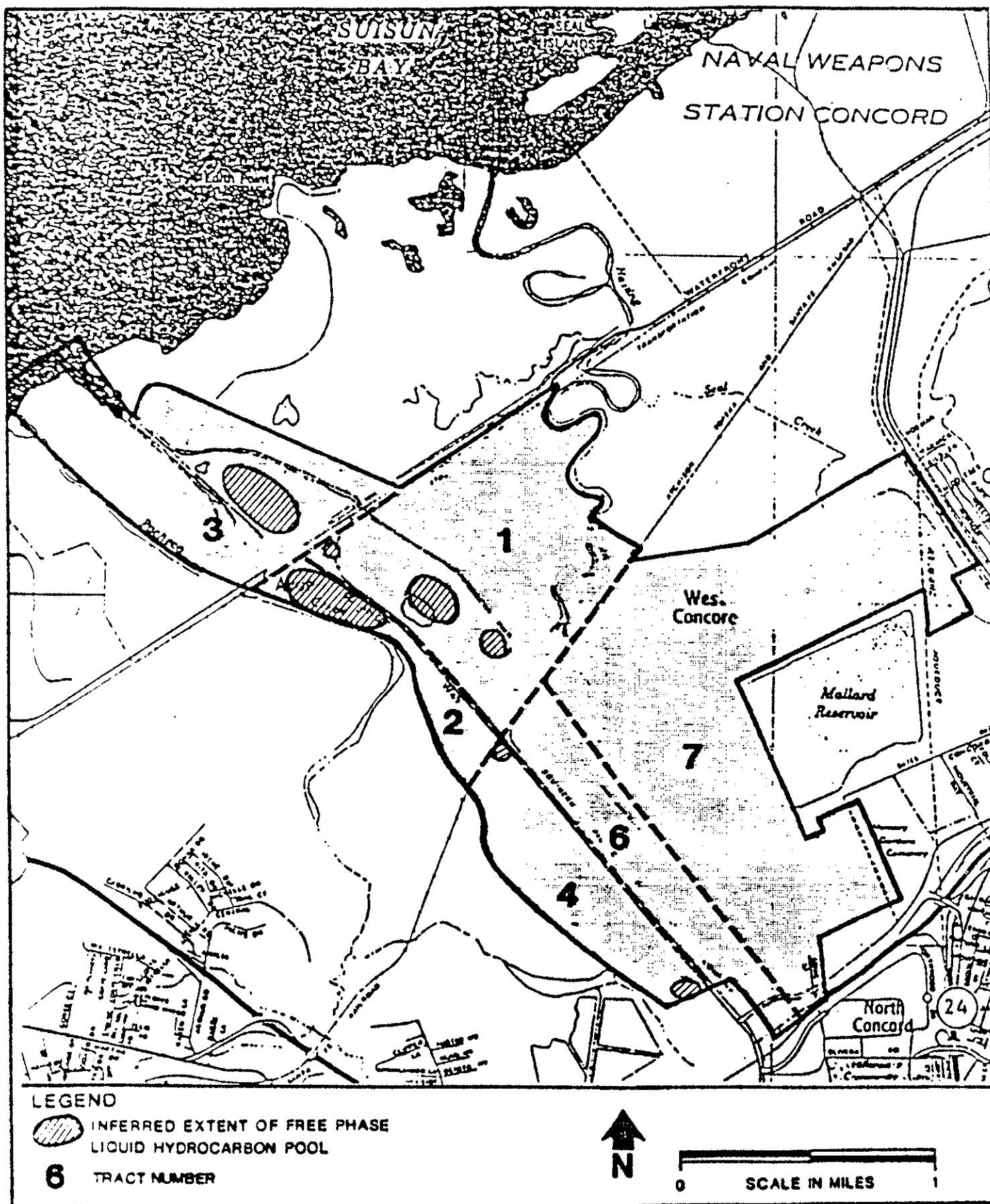


Figure 2: Location of FPLH pools